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GENERAL REVIEWS AND SUMMARIES

HISTORICAL CONTRIBUTIONS

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Klemm's *History* (5) is the most important contribution of the year. It is different from previous histories of psychology. Unlike Baldwin it does not confine itself to the genetic development of the theories of mind; unlike Volkmann or Janet and Séailles it is not a mere compilation of historical references, but presupposes the sources. In general the book is a critical and topical study of the concepts and theories of psychology under a system of multiple entry. Each item is distributed among different persons and a final historical accounting presented. Thus the author casts up the accounts, from ancient to modern times, of theories of vision and audition, of feeling and volition. This summarizing occurs in the third and last part, the second being taken up with the development of the fundamental concepts of psychology, the first with general tendencies, especially in relation to metaphysics. The latter relation is one largely neglected in histories of the subject, but Klemm does full justice to the metaphysical framework supporting psychological theories. Thus dualism in psychology is traced from Plato to Descartes, and monism from the atomistic materialism of Democritus to the equative materialism of Moleschott, and from the spiritualistic elements in Anaxagoras to Herbart's mechanics of ideas. The chapter on descriptive psychology is not so valuable as that in Dessoir, but explanatory psychology is fully analyzed under concepts ranging from association to evolution. Particularly valuable is the account of psy-

chology as a science, from the older and useless conceptual formulas to the modern differentiation of physical and psychical phenomena as based on exact experimentation.

Much space is given to psychical measurement, but disproportionate praise to the Germans. Thus forty references are given to Fechner, and not one to Cattell. The same disproportion obtains under theories of sensation, forty-one references being given to Wundt, two to James, and none to Bergson.

Such omissions in Klemm are made up by Kallen (4) in his study of the contrasting theories of James and Bergson, the former being presented as an upholder of pragmatic methods, the latter as the defender of intuitionism. Kallen does well in deriving James' philosophy of practicality from the *Principles of Psychology*. He might have substantiated his claim as to his master's originality by giving the original sources in the *Journal of Speculative Philosophy* of 1874.

For the sources of Bergson's thinking, we have the first authentic account given by Ruhe and Paul (10), two Swedes, who devote an interesting chapter to the life and personality of the author of *Creative Evolution*. Thus Bergson's studies in Lucretius and Aristotle, in Malebranche and Spinoza, have led to his work on *Matter and Memory*, and to his less known notes on the psychological origin of our belief in the law of causality, and to contributions to psycho-physical parallelism. There is little to show, as Kallen implies, that Bergson was under the dominance of transcendentalism. A correction might be made by Ruhe and Paul regarding the bibliography of Bergson's writings, presented to him at his Columbia lectures in 1913, for it was chiefly compiled by Wendell T. Bush.

A fault of Kallen's work is a too sharp contrast drawn between Bergson as intuitionist, and James as pragmatist. This might be toned down by referring to the scholarly history of Thilly (12) who does not consider Bergson's system as transcendental, but, along with that of James, as a reaction against rationalism and idealism. What Kallen hinted at is carried out by Knox (6) of Oxford when he shows that those very philosophical contentions of James which have been denounced as "most revolutionary" are actually contained and technically justified in the *Principles of Psychology*. So Knox seeks to present the continued unity between the *Principles* of 1891 and the *Essays in Radical Empiricism* of 1912. This is, indeed, a welcome vindication against the shallow charge against pragmatism as being "unscientific" because it refuses to see in psychology anything but an "iron system of law."

In marked opposition to all this Western speculation is Mrs. Rhys Davids's (8) *Buddhist Psychology*. It requires some mental gymnastics to abandon that "convenient Greek fiction," the traditional logic of whole and parts, genus and species, and the effort seems futile, when the author concludes that her inquiry over some twenty-three centuries of speculation shows considerable evolution in the introspective and analytical and critical power of the Indian mind, and at the same time "an unbroken current of consistently upheld tradition."

As a supplement to these larger volumes, we can but cite shorter accounts of scattered works. The aim of Murray's *Froebel* (7) is to make the pedagogist an anticipator of modern psychology. He succeeds in proving that Froebel was not a faculty psychologist, but does not disprove his being a preformationist. In presenting Froebel as a pioneer, the book confines its comparisons chiefly to the English authors, Stout and Ward, to the manifest neglect of American authors.

Some unedited writings of Leibniz (9) exhibit his attempts to subsume both the corporeal and spiritual *conatus* under pre-established harmony. Another German noted is Jodl (11), who is described as a positivist opponent of idealism, familiar not only with the literature of the French and Italians, but of "Anglo-Americans." Next there are some accounts of Chamberlain (3) as anthropologist and child psychologist, and of Pierce (2) as a student of auditory and visual space perception. Finally we have *Festschriften* on Hall (13) and Cattell (1), but *de vivis nil nisi*—.

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GENERAL STANDPOINTS; MIND AND BODY

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The biologically fundamental problem of the relations between the chemical-physical processes of the body and the physiological processes and between these latter and the mental processes continues to be a prominent subject in the current discussion of the philosophy of life and mind. In this discussion an important part is taken by the lectures delivered by Haldane (7) in the physiological laboratory of Guy's Hospital during May, 1914. His point of view is frankly Hegelian in maintaining that we are closer to concrete reality in our study of life and mind than in our study of matter. "The relations of personality, mere organism, and matter are relations of increasing abstraction from reality." Thus there is something essentially unreal, because abstract, in the biochemical study of the living organism. It leaves out the very object of the physiologist's study, namely life. "If we assume that the conception of the living organism is the fundamental conception of biology, it is clear that the aim of biology differs entirely from what it would be if the mechanistic theory were accepted. All attempts to trace the ultimate mechanism of life must be given up as meaningless. The aim of biology becomes a very different one—to trace in increasing detail, and with increasing clearness, the organic determination which the ground conception postulates. The bodily processes become nothing but the expression of organic activity." What is true of life is true throughout the realm of science: the higher cannot be explained in terms of the lower, the complex in terms of the simple, the concrete in terms of the abstract. "As the conception of organism is a higher and more concrete conception than that of matter and energy, science must ulti-

mately aim at gradually interpreting the physical world of matter and energy in terms of the biological conception of organism." In turn, a similar statement is to be made regarding mind and personality. Man the person is not to be explained out of man the organism, for personality is a stage even nearer the concrete and the real. Joseph (**10**) is Aristotelian rather than Hegelian. The real antithesis to mechanism is intelligence, and the activity that we find in living things is like no other thing known to us except intelligence. Mechanical configurations do not grow or progress but rational thinking does. The organism has unity but mechanical systems do not have unity. Now in rational thinking "the result is not explicable from the laws displayed in the interaction of parts, but that something which may be called the unity, or whole nature, of the mind or the soul is at work in the very process by which it comes to fuller display." Hence "we may be inclined to think, without wishing to check any of the biologist's inquiries, that life may after all have in it as much of intelligence as of machinery." Enriques (**5**) also finds that mechanical explanation is irrelevant in the field of biology and arrives at the following conclusion: "In the actual state of our knowledge, the mechanical hypothesis does not appear to be incompatible with the phenomena of life, but it is unimportant for the study of these phenomena." However, the mechanical hypothesis has played an important part in the past by tending to free biology from "sentiment" and by tending "to unify scientific views." It has helped us to find in life a proper object of scientific research, and was thus of great value to modern science in the beginning of physiological research. Singer (**14**) defines materialism as the attempt "to make life consistent with mechanism by making life mechanical" and monadism as the attempt "to make mechanism consistent with life by making mechanism alive at every point." Now neither theory is possible for any one who seeks to discover the precise characteristics of the behavior that we call life and who then bases his definition of life upon these characteristics as actually found. From this, however, it does not follow that there is a bridgeless gap between the living and the mechanical; rather the biologist will make "it his problem so to define life that it may dwell in mechanism and be of it, but in such manner that neither shall life be turned into mechanism nor mechanism into life." That which differentiates life from the mechanical is purposive behavior, as exhibited, for example, in self-preservation. Noel Paton (**12**) draws the line not between

the living and the lifeless but between the former and the mental. He shows that if we examine life in its simplest forms "the phenomena of living matter require no more for their explanation than do the phenomena of non-living matter." The origin of living matter, "its persistence and spread, and its reproduction and adaptation to its surroundings can all be explained in terms of physical and chemical changes." But what is consciousness? How did it arise? How does it act? "Here is a something about the relationship of which to matter and energy we know nothing and in my opinion cannot hope to know anything." "It can be regarded only as an epi-phenomenon linked to the more complexly developed living things." Thus, "the great and profound mystery is not the difference between living and non-living things, but the nature of the difference between creatures without and those with a consciousness."

Behaviorism also continues to be a prominent subject of discussion. Titchener (16) criticizes Watson's extreme behaviorism claiming that Watson is both unhistorical and illogical. Behaviorism is not new and in its extreme form it shows symptoms of both haste and impatience. Psychology and the study of behavior do not conflict, rather the one begins when the other begins and "the fortunes of the two are bound up in the same bundle." "Psycho-biology will run the same course as psychophysiology and psychophysics. It is now, I suppose, in its first phase, when pioneer work brings in gross and tangible returns. Next will come the period of revision, of elaboration of details,—a period of discouragement, perhaps, as the former was a period of elation; and then will follow the period of slow and steady progress, varied by a certain amount of wholesome interruption." Introspective psychology is now in this third stage; and it wishes the study of behavior success, but it declines "with the mild persistence natural to matters of fact either to be eliminated or to be ignored." Pillsbury (13) maintains that the definition and methods of a science and the formulation of its results must be determined by the science itself, by the actual research and not by individuals' preferences or by *a priori* principles. "There is room in psychology for the greatest variety of standpoints and for all methods provided only the spirit of live and let live prevails." "In the light of the tests so far available it seems to me that defining psychology as the science of behavior and the use of all methods possible under suitable precautions will lead soonest to the end of psychology, the

discovery of mental laws and their explanation." Holt (**8**) endeavors to define behavior precisely distinguishing it from mere reflex action. "Behavior is any process of release which is a function of factors external to the mechanism released." Prior to integrated response there is not found the genuine "objective reference" to the environment present in behavior. The object of behavior is the object of consciousness; and this object is a *fact* which the behaviorist is in danger of ignoring, committing the error of the materialist in denying the *facts* when he means to deny only the *theory* of consciousness. The behaviorist is liable to err in this way because in his analysis of a response into its reflex components he neglects "the equally important relations in which they are organized," in other words, their integration.

Of all the publications of the past year the most elaborate study of the philosophical foundation of psychology is that of Ziehen (**17**). His philosophical position is quite similar to the position of the so-called immanence-philosophers. The Given, that is, the world of sensation and of ideation is ultimate and therefore cannot be transcended and cannot be brought under any higher concept such as the mental or the physical. Rather it is within this world that man has come to distinguish these two fields of existence. This conviction leads him to deny any ultimate dualism between mind and matter and to assert only a double system of relations within the Given, "a binomy," which constitutes the distinction between the mental and the physical. The task of psychology is to investigate the two types of data found within the Given in order to ascertain "their parallel components," a technical term which Ziehen defines only after elaborate analysis. He defines more precisely his "association-psychology," he denies a psychical causation affirming instead only what he calls a functional relation, he analyzes the nature of introspection, he discusses at length the subject of methodology, and his book includes also a study of many other fundamental psychological matters.

The doctrine that psychology is the science of the self, also has been a point of attack and of defense. Calkins (**1**) comes again to its defense by showing that a scientific introspection does not fail to discover the self. Her problem is two-fold: "First, is the fact as stated; have scientific psychologists really found no trace of a self? Second, if the fact be admitted, is the failure to produce a self due to the inadequacy of the methods or to the nonexistence of the self?" Curtis (**2**) attacks Miss Calkins's claim that

psychology is "most naturally, consistently, and effectively treated as a study of conscious selves in relation to other selves and to external objects." Rather the self and its characters as represented by Miss Calkins could be arrived at without psychological training merely by logical inference. Finally, her claim that psychologists are unconsciously self-psychologists reduces to the fact that they use the personal pronoun. Nearly the same as the standpoint of the self-psychology is the standpoint of Strich (15). Psychology is to be kept in closest relation with the spiritual and cultural ideal of mankind as it is working itself to expression in man's history. Psychology is not a natural science but an appreciation of the individual and his ideals. The best psychologist is he who knows best the world and man, for the true object of psychological study is *man, the maker of history*.

The relation of psychology to philosophy is discussed by De Laguna, Eisenmeier and Goblot. De Laguna (3) quarrels with the attitude of the typical psychologist who endeavors to escape any epistemological responsibility. "The problem of meaning" is a real problem and the psychologist in attempting to describe mental life "in disregard of meaning" gets into theoretical difficulties within his own science. Two of these difficulties are: first, in endeavoring to substitute temporal process for substantial entities the psychologist has hypostatized process; second, he has conceived of ideas as capable of behavior, or as potentialities. Eisenmeier (4) endeavors to show that the standpoints, "psychology without philosophy" and "philosophy without psychology" are untenable. All the philosophical disciplines have in psychology their common starting point. "Psychology is their central discipline." On the other hand, psychology has received from philosophy her strongest interests and impulses. Goblot (6) finds the problem of logic to be psychological. This problem may be worded as follows: What are the forms and processes of an intellectual activity separated and subtracted from the influences of emotion and will ? The solution of this problem gives us only "the *natural laws* of a pure intellect." "It is because a *pure* intellect is only an abstraction that these laws seem anything other than natural laws and that logic appears to be other than psychology."

Two studies bearing upon the doctrine of parallelism are those of Hurwicz and Minkowski. Hurwicz (9), though admitting that the psychical is indeed not identical with the physical, finds Wundt's principle that the two are "absolutely incomparable" false. One

instance of a factor common to the physical and the psychical is the feeling-tone as seen in association by similarity where the causal action of the physiological factors are to be found directly in the train of thought itself, and therefore where the mental states cannot be explained exclusively in terms of psychical causality. In a long article consisting of three distinct studies Minkowski (11) devotes the first to a careful analysis of the doctrine of psychophysical parallelism. The second and third are analytical studies respectively of memory and Hering's color theory. In them the author gives the bearing of his results upon the doctrine of parallelism. One of the matters emphasized is the distinction between physiological memory (*e. g.*, as expounded by Semon) and psychological memory.

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CONSCIOUSNESS AND THE UNCONSCIOUS

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What, in the behavior psychology, becomes of the object which the subjectivist describes as content of consciousness? Holt (4) in his attempt to answer this and related questions, is led to define behavior as "any process of release which is a function of facts external to the mechanism released." Behavior is always integrated response, never simple reflex action. It is a constant function of some aspect of the environment. Now this aspect or object of which the behavior of the organism is a constant function is identical with what for orthodox psychology is the content of consciousness. The more integrated the behavior, the smaller is the part played directly by the stimulus as such, and the wider the aspect of the environment of which behavior is a function. Since complicated integrations are built up out of simpler, the level of personal awareness will always have as its "content" the object of which the most inclusive integration operative at a given time is a function. Lower elements in such a hierarchy will be coconscious, subconscious or unconscious, but since ultimately they, too, are functions of objects, they cannot be spoken of in terms of brain reflexes or unconscious cerebration. That which knows is, in such a theory, not an *anima*, but the body, unified by the nervous system, as that which responds to external objects. The principle of unity is to be sought not in such a permanent Ego as the subjectivists have postulated, but in successful and inclusive integration. It is thus attained, not innate. Where integrations are thwarted, such unity is not attained, with results of which the whole psychology of Freud is a discussion.

Herrick (3) deplores the present tendency toward the neglect of consciousness in psychology, since it seems to be a positive biological factor in evolution, and a true cause of the modification of behavior in the individual. Jones (5) finds the root of difficulty with the conception of consciousness in inadequate definition. The tradi-

tional dualistic doctrine, regarding consciousness as an entity, has been revealing itself more and more as unsatisfactory, and must be abandoned. More hopeful is the drift toward regarding consciousness as a function of the organism. This conception simplifies both practical and philosophical difficulties, and at the same time does not affect, save in the synthesis in which they are considered, the facts which make up the content of psychology. With such a view of consciousness both structuralist and behaviorist may be content. Behavior then becomes the quantitative, structuralism the qualitative, interpretation of consciousness.

Le Dantec (1) argues for an epiphenomenal view of consciousness, which is really the property which an organism possesses of being aware of its actual structure, or a part of this. Inorganic matter must be endowed with elementary forms of consciousness. Draghicesco's papers (2) present the view that consciousness is socially conditioned, in its origin and development. Suffering, especially through the agencies of war and religion, has been the main factor in its growth. As socially conditioned, consciousness should be studied by the sociologist, possibly not at all by the psychologist.

Windelband (8) uses the familiar arguments to demonstrate the existence of a mind wider than the field of consciousness. In particular, the phenomena of meaning and of the *a priori* are appealed to as being explicable neither in terms of consciousness nor of unconscious cerebration. Martin's interesting experiments (6, 7), after some preliminary work which showed that images apparently function less in thinking than is usually held to be the case, deal with the investigation of subconscious processes through the arousal of voluntary and involuntary images on the part of the observer. Spontaneous images arose not only when the observer was set for them, but also when his task was to arouse voluntarily a definite image. These often come more quickly than willed images, and from their character it is possible to make certain inferences regarding the nature of subconscious mental activity. This is not essentially different from that which goes on in consciousness. Material is not only retained, but may undergo on the subconscious level rather elaborate re-organization. Individuals differ very greatly in the abundance and variety of such spontaneous images, which again may either help or hinder voluntary thinking. This method of investigation seems to the author better designed to give systematic, possibly quantitative results, than any other which has yet been tried.

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DREAMS

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The literature of dreams is still largely concerned with Freudian implications and deprecations (**1**, **4**, **5**, **7**, **9**). The most ambitious work done in the study of normal dream and sleep is that of Shepard (**8**). The major portion of this two-year investigation was performed upon two subjects the previous trephining of whose skulls made brain-plethysmograph curves possible. The author asserts that sleep is a mental process, controlled by conditions similar to those which control attention generally. When we introspect (and thorough introspections of the subjects were always taken), we find sleep to be a "yielding to a heaviness," sensations of fatigue which tend strongly to inhibit other processes. The inhibition of skin sensations and auditory sensations is effected last of all. When these sensations of fatigue are yielded to we get sensations of "rest." The content of sleep, then, is a group of sensations of "rest." The curve of sleep, which shows the maximum intensity in the early hours of the night followed by a rapid rise and then a more gradual rise toward awakening, may be explained by the fact that enough waste product is thrown off after the first few hours of sleep to reduce the actual stimulation of fatigue sensations and thus lessen their dominance in attention. When attention is dominated by these sensations of rest, which tend to inhibit all

other processes, those processes which do arise and constitute dreams, form the "fringe of consciousness" and tend to disturb sleep, but are not an organic part of it. During sleep there appears to be an effective vaso-motor control of brain-vessels in man by a system of vaso-motor constrictors, the center of control of which is in the medulla. The changes in brain volume were found to be due to blood pressure, not to venous congestion. Finally study of the pulse-form in the brain showed that with sleep there is a relaxation of the brain vessels, and that active constriction accompanies awakening.

R. Weber (10) finds pathological evidence for agreeing with Koehler and others[1] to the effect that during the day visual imagery is secondary, auditory imagery primary, but that at night in dreams the very reverse is true. In alcoholics auditory hallucinations are frequent while visual hallucinations are infrequent, thus following, as it were, the law of day-imagery.

The Great War may be expected to widen our dream literature. Dr. Crile, a surgeon in charge of a hospital in France, writes of the soldier's dream-life as follows (6): "The harmony of the sleep of the exhausted soldier has but one discordant note, and that is the dream of battle. The dream is always the same, always of the enemy. It is never a pleasant pastoral dream, or a dream of home, but a dream of the charge, of the bursting shell, of the bayonet thrust! Again and again in camp and in hospital wards, in spite of the great desire to sleep, a desire so great that the dressing of a compound fracture would not be felt, men sprang up with a battle cry, and reached for their rifles, the dream outcry startling their comrades, whose thresholds were excessively low to the stimuli of attack. In the hospital wards battle nightmares were common, and severely wounded men would often spring out of their beds. An unexpected analogy to this battle nightmare was found in the anæsthetic dreams. Precisely the same battle nightmare that occurred in sleep, occurred when soldiers were going under or coming out of anæsthesia, when they would often struggle valiantly,—for the anæsthetic dream like the sleep dream related not to a home scene, not to some dominating activation of peaceful days, but always to the enemy, and usually to a surprise attack."

That the ordinary recital of a dream, even though accurate and faithful, is not a true introspective description, is claimed by Bentley (3). To get at the latter his observers were given an out-

[1] See review of dream literature in the BULLETIN for January, 1915.

line to aid in the introspective analysis of their respective dreams, bearing such captions as "associative formations," "mental functions," "dream emotions." A series of arousals, with the time unknown to the subject, were arranged, so that dreams might be caught in transit. Results from five subjects showed that visual and auditory processes were far more frequent than kinæsthetic or auditory-kinæsthetic processes; unpleasantness was twice as frequent as pleasantness. Conscious attitudes were reported as significant in fifty-four dreams, but the writer attributes most of them, *e. g.*, attitudes of worry, to the dimly appreciated task of reporting, and not to the dream events themselves. Dream emotions, on the other hand, spring directly from the scenes of the dream. Dreams frequently radiate from persistent topical centers; perception is the most usual mental function noted. Memory of past events *in the dream*, was never present in this investigation.

Bellamy (2) suggests a reason for the fact that certain portions of a dream are dim, without going to the doubtful process of positing a repression, as the Freudians do. His thesis is that only those things appear in a dream which are necessary to express the meaning of the dream. He writes: "I have examples in abundance which go to indicate that taste, smell, tactual, kinæsthetic, color sensations, or any other kind, will appear in a dream when they are called for to complete the meaning of the dream, but they are not common because they are very rarely needed."

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TERMINOLOGY

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Ruckmich (3) gives a much-needed analysis of the various connotations of the term *method* in scientific work. Not only is this word used in several senses, but he finds that several kindred words "are often used in the same contexts with differences of meaning which are difficult to analyze." Thus *method*, *procedure*, and *instrument* are sometimes used interchangeably. This looseness of diction is not confined to English: in German the terms *Methode*, *Verfahren*, and *Hilfsmittel* are similarly confused. Ruckmich finds four distinct uses of the word *method*, which he proposes to differentiate as follows: (1) *Method*, to be applied to "a general mode of investigation"; *e. g.*, method of experimentation. (2) *Procedure*, "a specific type or order of procedure for purposes of control or treatment"; *e. g.*, procedure of average error. (3) Point of view;—"the point of view taken or the intention assumed in an investigation"; *e. g.*, comparative point of view. (4) Rational principle, "the form of reasoning involved in the pursuit of any of the preceding types of operation, or in the systematization of the results obtained"; *e. g.*, principle of generalization.

Following out a problem suggested by Ruckmich's recent paper on the psychological use of the term *function* (noted in this summary in 1914), Dallenbach (1) investigates the historical origin of its application to mental data. He attributes the appearance of the new term in psychological literature to the influence of Gall and the phrenological movement. It apparently was not brought over directly from physiology. Early writers employ the terms *power* and *faculty*. There is no unquestionable instance of the use of function in its modern psychological sense prior to Thomas Brown. The phrase *mental function* and its variants are found quite extensively in Lewes and less frequently in Bain. The present-day usage was fixed by James, who "differentiates sharply between the structural and the functional aspects of mind."

Two more installments of the *Vocabulaire philosophique* (2) have recently been issued which embrace more psychological material than usual. Of special interest to the psychologist are the definitions of Psychique, Psychose, Psychologie, and compounds of the latter (comparée, individuelle, pathologique, Psychoanalyse,

etc.). "The term psychology includes several distinct studies, which should be separately defined." These are (1) behavior, "psychologie de réaction," (2) consciousness, "psychologie de conscience ou de sympathie," (3) reflective or critical psychology, and (4) ontological or rational psychology; finally (5) in a concrete sense the term is applied to "the totality of mental states and dispositions of a being or class of beings," *e. g.*, the psychology of an artist or statesman. Among other terms having psychological implications may be noted Personnification, Phénomène, Plaisir, Projection, Questionnaires, Réaction, Réflexe, and Rythme.

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INTROSPECTION AND GENERAL METHODS

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The claims of the behaviorists are discussed in three articles. Pillsbury (10) prefers to define psychology as the science of behavior, thus best avoiding any implication that the object is a peculiar kind of entity or force, but asserts that this alteration in the description need not alter "the treatment of the subject as ordinarily presented"; in fact the character of the existing science determines the definition of it. Any method which gives results is to be accepted. Introspection has given most, but "observation," the method of the behaviorists, is required for the study of many processes which have little or no consciousness: it should be admitted, however, that consciousness is "an essential determinant of behavior" (p. 377). We should broaden the term consciousness, and should "include in consciousness and among ideas the fundamental states upon which all effective mental life depends. More immediate than the image, more certainly made out than any slight movement, is the series of assurances that we have that certain events, subjective or objective, take place. We know that

we recall, we are sure that we recognize, believe, see objects," (p. 379). These are "the primary facts of mental life," "the fundamental reality." Experiments, statistical methods, etc., permit the discovery of the laws of these processes. But whether one is to use introspection or observation as the method of psychology is a question which arises only when one seeks an explanation of mental laws, not while one is discovering them. "For this explanation introspection, observation, and speculation on the basis of both and of knowledge obtained from all related fields can, I believe, all be used to advantage" (p. 379). The primary facts of the mental life are themselves obtained probably partly by introspection, partly by observation, and partly by experiment added to these. Jones (8) advocates the functional and relational view of consciousness, as opposed to the subjective and dualistic view. Consciousness is "just an attribute or function" of the physical organism: one is "as little body and knower as . . . body and walker" (p. 467). Introspection is "just a special form of ordinary knowing," in which "attention is . . . chiefly directed away from the nature of things as they are in themselves, which is the usual concern of men, to the character of the knowing process itself, and to the changes in content that are correlated with it" (p. 468). Behaviorism is needed, as a chiefly quantitative "interpretation of consciousness," but structuralism is also needed, as chiefly qualitative. Herrick (7) holds that "conscious processes are biological realities," and that a description of them can be obtained only by introspection. But, since consciousness is apparently a causal factor in behavior, a study of behavior is also required, to give knowledge of the function of consciousness.

The doctrine that psychology should be essentially a study of selves is attacked and defended. Against Calkins self-psychology Curtis (4) objects that the concept of the self is left obscure; that, while a distinctive method is claimed, the only such method specified is "reflection," which is of logic rather than of psychology; that the problem stated for this psychology—to understand and interpret as well as to describe—is rather one of metaphysics or of logical analysis than of scientific observation; and finally that statements concerning the self are not based on verifiable experimental observations. Gamble (6) defends self-psychology at least as coordinate with structural psychology. "Self" is an indefinable for the first, as "experience" is for the second. The self is not found by reasoning: it is found "not *by* introspection, but *in* intro-

spection" (p. 196). It is possible to be immediately conscious of the self; but "this form of awareness . . . is not like any other"; "the self can have itself as an object, but not as subject matter for introspection in the standard sense" (p. 197). Introspection, as attention under instruction and report, is inadequate for study of affective experiences *e. g.*, and cannot be claimed as the only valid method of psychology. Reflection, in Calkins's definition, is not a logic-process but is retrospection. Self-psychology is important less for discovery of facts about the individual self as such than for giving a basis for social psychology; and the relation of self to self may turn out to be open to "the semi-experimental method of 'controlled introspection'" (p. 200). Calkins (3) also writes in defense of self-psychology. Only in a limited sense can experiment be called a method of psychology, and it is in any case not a satisfactory method for obtaining knowledge of the self, which is unemphasized in perceptual and imaginative experiences. The self is never missing from any experience, however, and is therefore harder to isolate in attention. Introspection, in essentially the meaning given this term by such structuralists as Titchener, is the characteristic method of self-psychology as it is of structural psychology. "The self can have no status in scientific psychology unless it can be discovered by this method" (p. 505) when used by competent persons. And reports are quoted to show that systematic introspection under the best controlled conditions, "experimental introspection," does in fact find a direct experience of self.

Dealing also with introspection, De Sarlo (5) emphasizes the limitations of this method, and of quantitative study of mental facts. Introspection is an essential method of any psychological investigation; but the data so obtained must be also interpreted: there are probably other "manifestations of spiritual activity" which are not to be found by introspection but which may be inferred as necessary conditions of what is found. Bonaventura (2) finds there are several types of inherent introspective ability. In memory he considers that three factors determine the subjective certainty: memory proper, automatic reconstructive activity, and "introspection," which is an "assertion of the personality" as superior to this mechanism. When this third factor is weak there is illusion of memory, as, *e. g.*, in suggestion.

The term method is used in psychological literature, Ruckmich (12) finds, in four meanings, for each of which a distinct term is

suggested, thus: a general mode of investigation (method); a specific type or order of procedure for purposes of control or treatment (procedure); the point of view taken, or the intention assumed, in an investigation (point of view); the type of reasoning involved in any of the three preceding forms of operation, or in the systematization of the results obtained (rational principle).

In other writings which may form a miscellaneous group under this topic: Russell (13) develops the use which scientific method must make of recent improvements in the theory of logic. Poincaré (11), in German translation, discusses the mental processes by which important discoveries of scientific theory are made. Kelly (9) defines three kinds of directly comparable measures. Barrett (1) finds the method of paired comparisons not superior to the order of merit method. And Spearman (14) is inclined to hope a new era in psychology may date from the practical demonstration, by his formula, that "the theory of the two factors" in mental performance is correct.

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THE SELF IN RECENT PSYCHOLOGY[1]

A Critical Summary

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There has been a distinct renaissance of the self in experimental and systematic psychology during the last few years. The following pages present a résumé of some of the recent contributions to the literature of "self psychology."

I. The disclosure of the self through experimental study will be briefly treated, since a detailed summary of much of this experimental work has recently appeared (**5**). (*a*) A suggestion of one of the self psychologist's distinctions between perception and imagination is found in Anna Berliner's experimental study of the ability to distinguish perception from imagination (**2**). She finds that her subjects very often distinguish the "objective" from the "subjective" on the ground that it is forced upon them, is independent of their will (p. 103).

(*b*) Katzaroff experimented on recognition (**13**) by showing his subjects drawings which sometimes resembled, and again varied from, a series of drawings previously shown. He reports that, for his subjects, recognition is characterized by a "feeling of familiarity," and this he defines (p. 78) as "connected with the very feeling of our 'self' and . . . enveloped by" it. This result is unconfirmed by the "Experimental Analysis of the Process of Recognizing" made by Dr. Elizabeth L. Woods (**23**). Miss Woods not only repeated Katzaroff's experiments, in the Clark University psychological laboratory, but "devised a genetic method" of her own, choosing novel materials and teaching them to her subjects, and "taking an introspective cross-section of the recognitive consciousness at numerous levels." She finds that "awareness of self is not a necessary component of recognition" (p. 375) since it is only rarely, though sometimes, present (pp. 338, 374). The writer of this notice none the less believes that the rarity of these reports of self-awareness is perfectly reconcilable with the supposition that Dr. Woods's observers invariably had in their recog-

[1] The first of the 'general reviews' under this heading appeared in the Bulletin in January 1912. The present article takes note of a few publications of earlier date which were not named in that paper.

nition the consciousness of "same self then as now." For, as has elsewhere been argued (5), the constancy of the experience of self makes for inattention to it; the preoccupation of the introspectors with structural content, *Aufgabe*, and changing experimental process, crowds this consciousness of self still further into the background; and the conventional categories alike of 'structural' and of 'functional' description provide no terms for recording the awareness of self. In truth, the fact that Dr. Woods lists the consciousness of self among the "structural components of recognition" (pp. 370, 373), and as coördinate with "sensory components" and "affective toning," indicates on her part an entire misconception of what the self-psychologist means by consciousness of self. In the opinion of the reviewer, Dr. Woods's analysis of recognition should be studied for its notable contributions to the understanding of the recognitive process; and should be considered as counting neither for nor against the assertion that recognition is awareness of persisting self.

(*c*) The other experimental studies concern volition. Michotte and Prüm (16), in the laboratory at Louvain, studied decisions to perform one of two indicated (and unexecuted) arithmetical operations. They find that choice includes, in addition to kinæsthetic consciousness, frequent verbal images and affective experience, a "consciousness of activity" radically different from the feeling of muscular activity and "leading directly to the affirmation of the intervention of self." Ach (1) experimented not on choice but on simple volition. His specific problem was to compare the strength of volition with that of habit gained through frequent repetition. After his subject had learned series of rhymed, of reversed, and of "normal" syllables, the odd-numbered syllables were presented and the subject was directed to respond with a syllable of definite type in place of the syllable already learned. Ach's study of the introspection of his subjects leads him to enumerate four phases of volition, of which the most important are the consciousness of the end or purpose which "I" am to perform and the experience of self-activity. The self, according to Ach, is always experienced (*erlebt*) and not merely inferred in volition.

II. "Differential" and "social" and "euthenic" psychology always treat of the self whether implicitly or explicitly. Yerkes and La Rue (24) formulate a detailed questionary on "the ancestry, development, and present constitution" of the individual human being under the title "Outline of a Study of the Self." F. Giese (12)

critically summarizes the doctrine (ancient and modern) of the temperaments, as basis for his exposition of the advantage of the "correlation" method of studying individual psychology. He clearly conceives as the aim of psychology "to comprehend man as personality" (p. 121, *et al*). Lévy Bruhl's study of "Mental Functions in Inferior Social Groups" (14) leads him to the conclusion that the primitive consciousness essentially consists in the feeling of being "surrounded by an infinite number of beings . . . a multitude of spirits with more or less well-defined personality" (p. 63); and he finds the key to primitive beliefs and customs in what he calls participation, the unity which the primitive man experiences between himself and the people, animals, and objects which surround him—with the dead no less than with the living.

In his recent book on "The Foundations of Character," a study of individual psychology in its ethical bearings, A. F. Shand (20) throughout presupposes the feeling and willing self and occasionally names it. For the most part, however, as he specifically admits (p. 64), he abstracts and isolates "the systems of the emotions and sentiments . . . from that mind or self to which they belong." This failure to treat the emotions and sentiments as "attitudes of the mind or self" is directly responsible for some of the gravest defects of Shand's discussion, both the close verbal likeness to faculty-psychology which results from personifying the mental attitudes and also those hap-hazard enumerations of forms of emotions on which I shall comment a little later.

III. The experience of self is avowed, during the last few years and months, by many other psychologists in many connections. Yerkes and Pfander (19) treat the self as basal fact of experience. C. S. Myers (17), in a discussion of sense-intensity, asserts that "the self is involved" in "acts of apperception, thinking, willing, imagining, etc." (p. 153). Meumann (15), though he is specifically discussing the will, says that "our whole soul-life is analyzable into a sum of intellectual processes . . . which, however, possess a distinctive character through their immediate relation to the *I*" (*op. cit.*, p. 351).

From these and others, who assert that we experience the self, are to be distinguished those writers who seem to hold that the self is a necessary assumption of the psychologist. E. Dürr's description of the self (8) as "*das die Vorstellung Habende*" (p. 228) and as "*die Dauerbedingung psychischer Geschenisse*" ranges him with this group though, on the other hand, he seems to treat recognition

as direct experience of self (p. 243). Dunlap (**9**) also regards the self as "an essential presupposition of psychology." Bloch (**3**) opposes the doctrine of Lipps according to whom the self is experienced in emotion solely. Bloch rightly holds that "the consciousness that 'I' am sorry" occurs in no radically different way than the consciousness that I am sensationally conscious. Yet he concludes (p. 103) that the self is known not immediately but "in reflection." Natorp's position, also, is ambiguous (**18**). His teaching that the "I" is the "ground and assumption of all psychological problems" but that the "content," not the "self," is object of psychology (p. 33) indicates that he regards the self as merely inferred to exist; but on the other hand, he unequivocally teaches that the self is immediately experienced (p. 23); he emphasizes the necessity of a "subjectifying" psychology (chap. V., *et al.*); and he vigorously criticizes the conceptions of consciousness as complex of psychic forces (pp. 256, ff) or as series of psychic events (pp. 259, ff.).

It is a far cry from Natorp and Ach to John Stuart Mill, yet it is certainly appropriate to mention in this connection a recent paper by Else Wentscher which contrasts Mill's conception of the external world with his conception of the self. The conclusion of Fräulein Wentscher's analysis of these conceptions (**22**) as found in the "Logic," the "Examination of Sir William Hamilton's Philosophy," and in the Notes to James Mill's "Analysis of the Human Mind" is best given in her own words: "We must," she says (p. 336), "state the remarkable fact that Mill who is so convinced of the strength of associationist psychology that he seeks to solve the problem of the external world by its aid, abandons it in the case of the most fundamental psychological problems, because he has found it inadequate. His investigation of psychical phenomena, in particular of recognition and expectation, convince him that the psychic facts compel us to conceive (*aufzufassen*) them all as experiences of an *I*, permanent in change, a subject identical in all its phases" (p. 338).

IV. This review of current discussions of the self would be culpably incomplete without reference to two recent criticisms of self psychology. The first occurs in the recently published volume in which Ziehen (**25**) fits out a rather old-fashioned associationistic Humian psychology with an up-to-date wardrobe of epiphenomenalistic theory, structurally analytic method, and arbitrary mathematical symbolism. The book is full of rewards, in the shape of

good criticism and suggestive illustrations, for readers who will master the difficulty of some parts of it. Chapter IV is devoted to a criticism, in part well-founded, of the concept and of the alleged characters of the "Soul." One significant form of soul-theory, in Ziehen's account of it, asserts that there is a directly experienced soul, thereby virtually identifying soul and self. Ziehen opposes this view, first, by asserting that many agree with him in denying such direct consciousness of self, and by throwing the burden of proof on those whose introspection disagrees with his (p. 120), and second, by attributing either to the brain or to the mental process the experienced characters which are commonly attributed to the self. Thus the 'individuality of the self,' according to Ziehen, is the distinction of one brain from another; self identity reduces to the relative stability of brain phenomena; unity is a given character of series or complexes of mental phenomena. One does not need to be a self-psychologist to remark that Ziehen's argument is based on the unargued and untenable assumption that psychical phenomena are to be defined purely in terms of their passively parallel relation to physiological phenomena.

The paper of Dr. J. N. Curtis (6) is more limited in its reference than Ziehen's chapter. Her very detailed criticism is directed against the work of a single self-psychologist, the writer of this notice. Some of her criticisms apply only to this one particular form of self-psychology, some—as is pointed out by E. A. McC. Gamble in her "Defence of Self-Psychology" (11)—merely elaborate difficulties common to all forms of psychology. In particular, Miss Gamble shows that the self-psychologist can no more reasonably be challenged to produce a definition of self than his critic to produce a definition of consciousness. One, however, of Miss Curtis's criticisms may well be laid to heart: the reproach against self-psychology for discussing "only the topics familiar from structural psychology." It will be noted that the self-psychologist is not, by these words, condemned for treating the topics common to all psychologists—sensations, affections, reactions and the like—but for dealing merely with these topics. And in truth self-psychologists frequently assert a self without using it; they employ exclusively the descriptive categories (essential, but by themselves inadequate) of "selfless" psychology; they fail to distinguish the different attitudes of self—receptive, active, sympathetic, non-sympathetic and the like—to its environment, personal and impersonal; and they ignore the description, ready to their hand, of

perception, thinking, and volition as social experiences. Even when experiences are described in terms of self-psychology, the fundamental character of these principles of distinction may be ignored. So Shand and McDougall, for example, stress the self-regarding and the self-abasing attitudes but seem to be unaware that these are fundamental characters of instincts, emotions and activities and that all forms can be grouped in one of these two great classes.

But while, in the case of most self-psychologists, the justice of this criticism must be admitted, full right of way cannot be given to it. For there certainly exist the beginnings of a systematic self-psychology. Alexander Pfänder (19) has presented a clear outline of self-psychology in his *Einführung in die Psychologie*. (The writer of this notice who has only within a few months become acquainted with Pfänder's work, is greatly impressed by the similarity between his systematization of self-psychology and her own attempt in the same direction (4).) Pfänder unequivocally conceives psychology as science of the psychic individual, or self. "We can not," he says, "conceive even a sensation without thinking in it a sensing, psychic subject." Among the characters of this subject, or I, he enumerates "the identity of the experiencing I" (p. 197), its "ceaseless change" (p. 188), and its uniqueness (*eigentümliche Einheit* (pp. 203 ff.). This 'I,' or subject, he continues (p. 207), stands in a relation to the perceived or imagined object (*Gegenstand*) which is comparable to the relation of center to periphery. Pfänder is at great pains to make clear that no 'epistemological reflections,' are introduced into his conception of 'object.' He refers by the term to something entirely different from the so-called 'content' (p. 208). In fact, he takes 'object' in its most general, every-day sense to include material objects, past and present, relations between things, psychic objects—other men and their experiences, and all objects of imagination. The relation between the self and these objects is a *Wissensbeziehung* and there are several forms of it differing according to the nature of the object and the *Tätigkeit* of the subject. Seeing and hearing, for example, are special kinds of *Wissensbeziehung*. In addition to this consciousness of objects every subject has feelings of like and dislike, in which it is primarily conscious of its own condition (pp. 228, ff.), and also has activities (*Strebungen*, pp. 244, ff.) which are distinguished alike from the merely receptive awarenesses of objects and from the emotional experiences of the self in its inactivity.

Limits of space forbid either a summary, in greater detail, of Pfänder's work or more than a bare mention, in this connection, of G. A. Coe's paper (7) on Mental Functions. But it must expressly be noted that evidences of a working out of self-psychological categories are found not only in the writings of general psychologists but in experimental and pathological studies. Michotte and Prüm (16), already summarized, distinguish admirably not only between will directed to the future and non-temporal will, but between the assertive and the loyal (or, as they call it, the passive) forms of will. And Ach (1) differentiates the consciousness of willing from that of obedience on the one hand and of obligation on the other, according to the varying degrees of the self-activity and consciousness of reality involved.

Similar suggestions toward classification, in terms of self-psychology, may be gained from Frederic L. Wells's "The Systematic Observation of the Personality" (21). Dr. Wells definitely conceives psychology, from the standpoint of the psychiatrist, as study of the 'adjustment of the personality to its environment' (p. 295). The data for a study of personality are to be used statistically and consist in 'comparative judgments' of the quantitative relation of the subject to other individuals (pp. 295–296). Especially significant are Dr. Wells's distinctions between forms of self-assertion (p. 303), between types of adaptability (p. 304), and, finally, his discussion of moods (p. 311) and of the 'attitude' of a self toward himself (p. 313) and toward other selves (p. 314). But the mention of Dr. Wells's contribution opens up a subject so large that it cannot here be considered: the important place of the self in the psychology of abnormal experiences. This paper must close accordingly with the barest mention of Claparède's paper (6) in which the author concludes, from the study of a pathological case and of instances of post-hypnotic suggestions, that the inhibition of 'egocentric associations' checks recognition.

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TEXT-BOOKS AND GENERAL TREATISES

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In his two volumes Ziehen (**11**) has covered concretely, clearly and in the conventional academic fashion all the important principles involved in psychology. It is what one generally terms the philosophy of psychology. The first volume is concerned with the epistemological, the second with the psychological principles.

Not its least valuable part is that devoted to a discussion of the numerous theories bearing upon the points under consideration. Much attention has been given to their classification with the result that many subtle differences between them are disclosed. Although the author is not extremely radical, yet he always differs in some degree from existing opinions. This is necessitated in great part by his rather unique conception of the relation of subject and object. He rejects both interaction and psychophysical parallelism and substitutes what he terms binomism. He starts from experience (*Das Gegebene* or *Gignomena*). This is neither mental or physical. From the *Gignomena* are reduced (*Reductionsbestandteilen*) the stimuli and the brain processes. These two stand in a twofold relation to each other—a parallel and a causal. Physiology is concerned with the latter relation, descriptive psychology with the former. A descriptive account of mental phenomena without reference to stimuli or brain is in Ziehen's terms a treatment of the *Gignomena* in respect to their parallel relationship and this method is the one followed in these volumes. In principle, however, psychophysics and psychophysiology are not excluded from modern psychology. Through them laws are derived which are as exact as those of the natural sciences. A short history and criticism of experimental methods with special reference to the nature and value of introspection is given.

The mental phenomena can be reduced to two components—sensations and images. From a genetic viewpoint sensations are considered primary. They are transformed through certain functions or processes to images. These processes are specific parallel reactions or energies analogous to the specific nervous energy. In the degree of vividness is found the distinctive difference between sensation and image. Feeling tones develop as secondary processes of these. They are classed as attributes of sensation, although it is admitted that the term as here employed is not quite that of conventional usage. In this connection Stumpf's theory of feeling sensations and Külpe's theory of feeling are criticized at length. From the feelings are developed the emotions and temperaments, according to the author's laws of radiation and fusion. In the lengthy account of concepts and judgments it is shown how sensations and images and their special relations are sufficient to explain the more complex phenomena without the aid of imageless thought. Through the simultaneous combinations of images are developed the general concepts and the products of comparison,

imagination and speculation and through successive combinations the various logical judgments. The will is treated empirically according to the results of recent experiments. Both a special act and a determining tendency are denied except in so far as they are physiological processes. It should be added that Ziehen does not admit a subconscious in his system.

There is a large section devoted to a discussion of Brentano's and Stumpf's separation of act and content with which Ziehen disagrees. As an example of the author's general treatment may be mentioned his association theory. The choice of the ideas is dependent upon the causal processes of the brain, the meaning of their connection upon the parallel relationship.

Thus far we have been describing principally the contents of the second book. The first is concerned with the nature of the soul, the concept and unity of the ego, mental substance, and the concept of consciousness especially as a fundamental characteristic of mental phenomena. There is also a large section upon the relation of psychology to logic and ethics.

Givler's book (4) is an attempt to teach a psychology in complete accord with the principles of a realistic philosophy, as developed by Professor E. B. Holt, to whom the author acknowledges his indebtedness and from whose books he has quoted at length. Nevertheless the book shows the marked originality of the author. Although it is a polemic against mysticism, faculty psychology and such like obstacles to the development of an exact science, the author intends it as a text-book. He confesses, however, that it contains many gaps which will have to be filled in by the lecturer. He has striven for a most radical departure from the conventional text-book and in this he has been eminently successful. Over half the book is devoted to the chapter upon "The Sensitive and Perceptive Organs." The attributes are divided into essential, such as quality and intensity, and inessential, such as after-images, fusion and contrast. These different attributes are described and explained at length and then the special senses are treated separately. Of the perceptions, that of space has interested the author most. There are also some remarks upon the value of introspection, and the chapter closes with an account of the nature of speech and language. Here and there are interspersed rather detailed accounts of experimental work such as that of Head upon cutaneous sensations. A chapter upon "The Emotional Complexes," probably the best of the book, opens with a definition of emotions and

instincts as "motor responses to disordered situations." In the last chapter, entitled "Matters and Minds," the author has included all that he feels must still be said. There is a polemic against the old conception of the self and a number of pages devoted to æsthetic values. It will probably be seen from the above brief description that the book is not a systematic treatise.

Valentine's (9) little book upon experimental psychology is intended for teachers, and the experiments included are those that can be performed with very little material. The book is divided into two parts, one containing a description of the experiments, the other a discussion of results, their value and application. There are only twenty-seven tests, all of which are familiar. They cover association, imagery, attention, learning, mental types, memory, skill, fatigue and general intelligence.

Although Jastrow's book (6) entitled *Character and Temperament* will probably be included in a more special summary of the BULLETIN, yet the scope of the book is so inclusive that it does not seem amiss to describe it here. There is a discussion of the quantitative and qualitative treatment of the subject, an emphasizing of the exactness of an approach by means of statistical data, which data, however, are often difficult of application, and an explanation for his adopting the qualitative method based upon careful analysis. The author then describes the nature of traits especially in their functional aspect. Throughout the book numerous illustrations are drawn from experience as a welcome supplement to formal discussion. It is clear from the outset that one of the author's chief concerns is to show the correct relation and importance of the two factors underlying man's character, "nature and nurture," innate qualities and the results of reaction to the environment with all which that implies. Three things must be remembered in regard to traits; "First, the original trait *persists* in and through its transformation. . . . Second, the primitive direction or trend of the trait is determined by consideration of its uses. . . . Third, in consequence of the evolutionary stages the trait finds a larger and more versatile *order of expression*."

The second chapter deals with the bearing and importance of sensibility. A few types of sensibility such as the hygienic and gastronomic are given detailed consideration. In regard to æsthetic sensibilities the author thinks it plausible that they "owe their being to the sex relation."

A large section is devoted to the influence of emotions upon

conduct. "Sensibility supplies the invitation, its acceptance is so involved as to require the ampler influence of the emotional irradiation to carry the stimulus successfully to its satisfying response." The expressions of emotions are genetically considered and the growth of emotions discussed. The emotions rise to a loftier plain through the process of intellectualization. In the chapter upon the "Higher Stages of Psychic Control" two processes are considered operative upon instinctive dispositions, socialization and intellectualization. Shyness, sympathy, suggestion, imitation, etc., are brought in relation to the former, and sentiments such as pride, to the latter.

In the chapter upon "Temperamental Differences" we find temperament "refers to a composite inherent bent of nature" and is practically unalterable. Yet under the influence of the environment it develops into complexes of traits. The discussion leads to the problem of individual differences. In regard to the genius and to men of high capacity the influence of heredity is considered of greatest importance. "The study of individual difference attempts to reduce to measured statement the bases, distribution, and correlations of the differences of endowment."

We come in the next chapter to the abnormal mental tendencies. They are "irregular expressions of normal endowments under exceptional strain." They may always be referred to some functional disturbance of the nervous system. Space is devoted to the neurasthenic temperament, to hysteria and the pathology of fear. In referring to Freud the author believes that in abnormal conditions we may not always find a sexual passion, although there will be present a susceptibility in that direction. There is always the tendency for any temperament to develop into an abnormal complex.

The close relations between normal and abnormal temperaments and between the genius and abnormality are emphasized. "The vagaries of paranoia and flights of genius have a common source as well as a common risk." In describing the "Psychology of Group-Traits" the author takes pains again to insist upon the greater importance of nature as contrasted with outside influences. Those group traits which are the result of inheritance remain the dominant ones. Much attention is given to the subject of sex differences which are studied by following seven clues: bodily, genetic, communal, physiological, psychological, environmental and pathological. Race differences, family traits and the criminal class, are

then considered. The next chapter deals with the influences of the environment and the last one with the general topic of "The Qualities of Men."

Bruce's (1) book is written in non-technical language and addressed particularly to parents. The style is that of the popular magazine, in fact a few of the chapters have already appeared in several of them. Many anecdotes and popular accounts of scientific work have been introduced. The key-note of the book is the potent influence of the environment upon the child. Its importance is discussed in the first chapter. Special attention is called to the subconscious factors which have so much influence in shaping the future actions of the individual. The succeeding chapters consider the important factors of the child's environment from its earliest years, including the actions of the parent. In the essay upon suggestion among other things the influence of colors upon the individual is discussed at some length. In the chapter entitled "The Secret of Genius" the author puts forth the belief that, although the man of genius upbuilds and stimulates his subconscious powers by conscious observation and thought, yet any normal individual may attain the title of genius by wise education and adjustment to his surroundings. Accounts of several child prodigies follow. In the chapter upon laziness occasion is taken to describe the medical examinations that are now being made upon children. The cure for laziness is suggestion and medical treatment. In the essay upon laughter the several theories are described. Bruce believes that laughter is a safety valve for excessive energy and for that reason the parents are warned against curbing this instinctive tendency in their children. The latter part of the book deals with hysteria and fear in childhood and here the psycho-analytical method is introduced.

Putnam's (8) book is a semipopularly written little volume for the Mind and Health series. It is educational and ethical in its tendencies with a psychological background. Man's attitude toward the world is influenced by ideals and by inner struggles, cravings and desires. He should know about both these sources of action in order to control them. Ideals are treated by philosophy. Psycho-analysis brings to light the inner motives. A chapter is devoted to a description of the psycho-analytical method and another to its relation to education. Throughout the book there is an insistence upon self assertion in the sense of an unfolding of the best that is within us. To this end parents and teachers

should be careful not to use their authority to the degree of crushing independence in the young. Also they should examine their own motives and tendencies in order to qualify as teachers. In the chapter upon "The Rational Basis of Religion" stand is taken against determinism. "The universe is a self-consistent whole, rational and free, ever and eternally changing in detail yet without losing its consistency with itself."

The second part of Whipple's (10) Manual has now appeared, thus completing the revision of the one volume edition. The subject has grown so rapidly since the first edition that many of the tests have had to be considerably altered and much new data from the latest experimental work included. The two new tests introduced are the Kent-Rosanoff test and the Analogies test.

Dumville's (2) "Psychology for Teachers" is a second impression of the little book which was written in 1913 and which in turn is a simpler and more abbreviated form of his "The Fundamentals of Psychology."

Three books have appeared which may be used as supplements to ordinary text-books. Parson's (7) book upon color vision follows closely the plan of treatment adopted by von Kries in Nagel's *Handbuch*. The author is an opthalmic surgeon and is in close touch with Sir William Abney. It is unnecessary to review the contents. All the important phenomena of human color vision are included and in addition a short and very incomplete section upon the results of comparative psychology. The large section devoted to the various color theories will be of special value to students.

Dunlap's (3) "Psychobiology" contains the physiology which a behaviorist should know; that is of the cells, muscular tissue, the nervous system and the glands. Attention should be especially called to a complete and up-to-date neurology, containing numerous cuts, by Herrick (5).

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SPECIAL REVIEWS

American Thought, from Puritanism to Pragmatism. WOODBRIDGE RILEY. New York: Holt, 1915. Pp. viii + 373.

Professor Riley's survey of American philosophy is less burdensome reading than the average history of philosophy. This may be because American thinkers are less prone to indulge in unprofitable and perplexing abstractions than their fellow-craftsmen in Greece and Germany. Or it may be that the author's sane appreciation of values has led him to touch lightly on mere verbal jugglery.

The theological interest is the strongest motive in the development of American thought, to judge from this work. Scientific considerations come second, with speculation considerably in the background. The scientific motive is of far less importance in the earlier stages; in more recent years it tends to become paramount. In the philosophy of yesterday and today we find the place of honor accorded to the evolutionism of John Fiske and Mark Baldwin, the psychological idealism of Ladd, the pragmatism of Peirce, Dewey, and James, and the new realism based on science. The St. Louis school of Harris and Royce's idealism are alone in upholding the traditional standards.

This is scarcely the proper place to discuss the theological aspects of American philosophy, which Professor Riley pictures as a contest between Puritanism and various forms of liberalism. Quite apart from their philosophic import, however, these earlier chapters will arouse the psychologist's interest by their vivid portrayal of American national traits. The author has caught our race psychology in a remarkable manner. The average American will feel quite at home among even the austere Calvinists of Puritan times, as he reads Professor Riley's account of these worthies.

The book is in no sense a history of psychology. American contributions to the science are referred to in several places, but

rather in an incidental way. The emphasis seems to be not always correctly placed. For example, the speculative writings of Ladd (to whom the book is dedicated) are discussed in great detail, while his *Physiological Psychology* is not even mentioned. Yet one may venture to assert that this one work has influenced the progress of American thought more than the rest of Ladd's works together. The appraisal of Dewey seems fair, and so of Baldwin; but in James again the masterpiece is entirely ignored. On the whole, however, the place of psychology in modern American thought and the contributions of American psychologists to philosophy are properly estimated.

In the earlier period the Scottish faculty psychology and associationism predominated in this country. There appears, according to the author, to have been little original development. Joseph Priestely, a follower of Hartley, settled in this country in 1794, but his chief work here was in chemistry.

The author calls attention to the work of Dr. Benjamin Rush, who has been styled the father of American psychiatry. Rush's attitude toward psychotherapy is significant. He says that aboulia "may be cured in two ways: From the physical side he has been informed by his friend Brissot that animal magnetism will cure like cases; for himself he prefers the psychical remedy, what we would now call mental suggestion" (p. 110). The concept of animal magnetism, as Professor Riley points out, was made popular through the electrical experiments of Benjamin Franklin, another American.

The Philadelphia school of psychiatry which followed Rush emphasized "the reciprocal influences of the physical and psychical. Thus Provost Beasley of the University of Pennsylvania asserted that in every case in which there is performed an operation of the mind, there takes place, at the same time, a correspondent, correlative, and consentient operation of the body. Here was a good alliterative anticipation of the formula of psychophysical parallelism, in which the material side of human nature is given its due" (p. 112).

Among these earlier contributions to psychology, perhaps the most interesting is a description of the child mind by Samuel Johnson of Connecticut and Kings College (not the Londoner!) in a passage of his *Elementa philosophica*, which Dr. Riley quotes at some length. "The first notices of the mind are doubtless those of sense, but directly joined with a consciousness of its perception.

Warmth and hunger, and probably some pains, are, perhaps, all the sensations the infant hath before its birth; and when it comes into the light of this world it is directly impressed with the sense of light and colours, as well as sounds, tastes, odours, and frequent uneasy and painful sensations, all of which still more and more awaken its consciousness . . . upon the repetition every moment of fresh impressions of sense, until by degrees, having a great number of feelings, tastes, odours, sounds, and visible objects, . . . it begins, by means of the intellectual light with which it finds its consciousness attended, gradually to collect and recollect the several relations and connections it observes to obtain among its various ideas. . . . It must . . . be a matter of great exercise of thought in an infant mind to learn . . . the notion of the various distances and situations of things tangible, by its observations on the various degrees of strength and weakness, of vividness or faintness of the light reflected from them, in the things visible constantly connected with them. And at the same time . . . it is also learning the names of things and the connection and use of words . . . . And, as if all these were not task enough, it hath all this while to be learning how to use its limbs, its hand in handling, its tongue, and other organs of speech, in making and imitating sounds, and its whole body in all its exertions and particularly, at length, the poise of its center of gravity and the use of its feet in walking" (pp. 24–25). Written in 1753, this is a very creditable attempt at genetic psychology.

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Manual of Mental and Physical Tests. G. M. WHIPPLE. 2nd Ed. Part I. Baltimore: 1914, Warwick and York. Pp. xvi + 365.

The additions in this first volume of the new edition amount to approximately 80 pages. Nearly all the changes which have been made are in the nature of either addition of new material or alterations or amplification in form of statement. The most important additions consist of (1) new paragraphs in the introductory chapters on General Rules for the Conduct of Tests and The Treatment of Measures; (2) the addition of Tests 25a and 25b on the spot pattern and the form board; and (3) the addition of references at the end of the individual tests. In some cases the addition of references is considerable, amounting in one case to twenty-five.

In the chapter on General Rules for the Conduct of Tests

there is a recognition of the fact that a uniformity in the conditions of a test is not to be interpreted in a mechanical fashion. Latitude in external details may be permitted in order that the essential similarity in the mental condition or attitude of the subject may be maintained. The rules are further amplified by discussion of the significance of the score in terms of speed of performance. The relative reliability of oral and written responses of subjects of different ages is discussed. The necessity of getting a measure of the reliability of a test by giving it more than once to the same individuals is justly emphasized. Finally, the well established fact that more than one test is necessary to establish the status of an individual is brought out.

In the third chapter on the treatment of measures there is an addition of several new formulae. Means are given of calculating the variability of measures of central tendency and of differences between means. Several new methods of determining correlation are included, as the relationship of contingency and the calculation of pooled results. Two corrections in minor details of formulae were noted.

In the sections devoted to the individual tests the chief changes, beside the introduction of two new tests, consist in the amplification and systematization of the treatment of results. In one or two cases there is a change in the apparatus.

The book shows evidence of careful revision throughout but there has been no alteration in its general character and purpose. It continues to be chiefly a reference work which has for its purpose the indication of standard procedure in the conduct of tests, and the presentation of a critical summary of the results of these tests. Even a slight acquaintance with the literature on tests is sufficient to make it evident that the standardization of procedure is very important. While actual experience in psychological experimentation is necessary to enable one to apply test methods properly, some agreement as to procedure is necessary even among skilled experimenters. Such a standard of procedure should not restrict investigation by varied methods, but it is useful to have a standard of procedure which can be followed for the purpose of getting comparable data. Whipple's book is a very careful formulation of such a standard in the tests which have been selected for his manual. It is safe to say that whenever one wishes to adopt a standard procedure in any of these tests it would be well to follow Whipple's procedure unless there is positive reason for deviating from it.

It is worthy of comment that the general character of the tests remains the same, in that they are designed as measures of individual mental functions in the main, rather than as measures of the efficiency in the performance of a complex task, the unity of which is determined by its aim. In the present arrangement some assumption must be made regarding the particular mental function which is measured in a certain kind of performance. In the other type of test measurement of performance is undertaken because efficiency in it has some practical value. Such tests are being rapidly developed as a means of measuring the efficiency of pupils in their performance in the various subjects of the curriculum. It may be that the difficulty of classification and organized treatment of the results would make the inclusion of the large body of data from these tests unwise in such a work as this. The line is not always sharply drawn, however. Thus there are included tests of adding and of reading, and it would seem that a fuller treatment of these and the inclusion of several which have been most thoroughly standardized would add considerably to the practical value of the book. In the work of testing in the school subjects several issues have emerged which make it desirable that the principles underlying them be discussed. The author, however, has put the psychological and educational world under large debt by his careful and extensive collation of the data which are at hand upon the tests which he has chosen to include.

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NOTES AND NEWS

At its meeting in Chicago the American Psychological Association elected the following officers: president, Professor Raymond Dodge (Wesleyan); members of the Council, Professors Carr (Chicago) and Dunlap (Johns Hopkins). Professor R. M. Ogden continues as secretary-treasurer. It was decided to hold the next annual meeting in New York City in affiliation with the A. A. A. S.

The Southern Society for Philosophy and Psychology at its meeting in Columbus elected the following officers: president, Professor D. S. Hill (Tulane); vice-president, Professor E. K. Strong, Jr. (George Peabody); members of the Council, (two years) Professor P. Wardlaw (South Carolina), (three years) Professors J. C. Barnes (Maryville) and E. E. Rall (Tennessee).

The following officers were elected at the recent meeting of the American Philosophical Association: president, Professor A. O. Lovejoy (Johns Hopkins); vice-president, Professor E. A. Singer, Jr. (Pennsylvania); secretary, Professor E. G. Spaulding (Princeton); members of Council, Professors Rogers, Pratt, Cohen, and Urban.

Professor F. M. Urban, of the University of Pennsylvania, after having served at the front with the Austrian army and later in the hospital corps, is now in Sweden, but will probably not be able to return to this country on account of the taking off of ships and the detention of citizens of the Central powers by the Allies. Professor Urban's address is Grand Hotel Haglund, Göteborg, Sweden.

During December six lectures were given at the Boston Psychiatric Hospital and one at Wellesley College by Dr. Shepherd Ivory Franz, on the functions of the cerebrum.

Announcement has been made of the temporary suspension of the Italian journal *Psiche* on account of the war.